

Just transition to net zero

Or: how my thinking about environmental issues evolved over the years...

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Why do we fail to address so many environmental issues?

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- Gollier and Tirole [2017] on climate:
“To save the commons, the users of the commons must cooperate. That requires trust, and trust requires a reciprocal agreement—we will if you will, and you will if we will (...) The approach that economists have long proposed to solve the free-rider problem consists of inducing economic agents to internalize the negative externalities they impose when they emit CO₂”

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- Desperation or adapting tools to problems? To be seen...
- Will industrial policy work? Can be tested!

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The role of labor market frictions

One city, two populations



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- **Bad news** for industrial policy?
- Taking a step back: opportunities for new directions in environmental economics and policy

Labor markets and the clean energy transition

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- **How plausible is the transition from fossil-to-green jobs?**
- Context: IRA (2022) and “energy community” policies

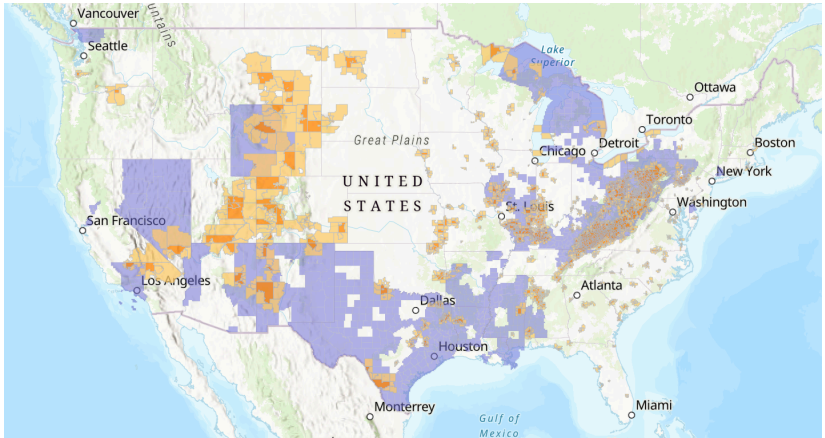


Figure 1: Energy communities

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- **Skills**
 - Skills, tasks, and occupations [Autor et al. 2003, Brynjolfsson and MacAfee 2014, Vona et al. 2018]
 - Expectation: **Pr(new job) declines in skills distance**

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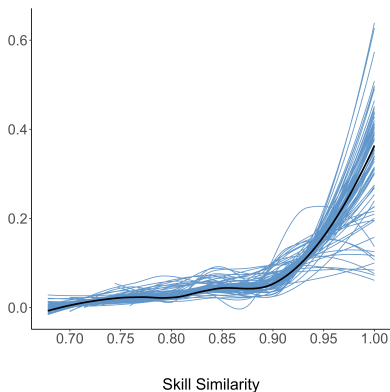
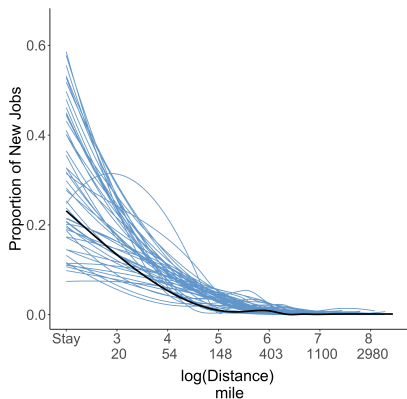
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$$\text{Flow}_{f,m,f',m'} = f(\text{Distance}_{m-m'}, \text{Skill}_{f-f'}, \mathbf{X})$$

Results



FF workers' **probability to switch** is highest for jobs...

- within ~50km of current location
- with skill similarity score >0.9

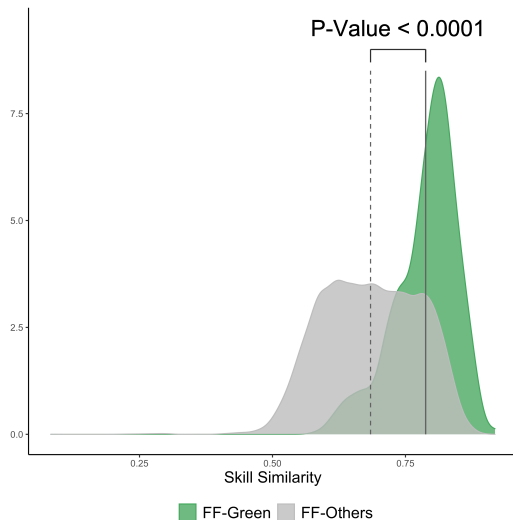
Estimates

Poisson regression of worker flows across markets and industries, standardized variables

	<i>Dependent variable: Transition_{f,m,i',m'}</i>				
	(1)	(2)	(3)	(4)	(5)
Skill Similarity _{i,i'}		0.59***		0.84***	0.41***
Distance _{m,m'}			-1.13***	-1.18***	-2.07***
Employment _{f,m}	0.94***	0.97***	1.01***	1.00***	1.04***
Employment _{i',m'}	0.85***	0.90***	0.98***	0.97***	1.04***
Stay (Industry)					1.11***
Stay (Location)					-3.43***
Constant	1.16***	0.95***	0.23***	-0.04***	-0.34***
Pseudo R ²	0.16	0.21	0.72	0.81	0.84
Observations	10,352,319	10,352,319	10,352,319	10,352,319	10,352,319
Akaike Inf. Crit.	418,166,583	394,530,167	149,964,415	108,038,895	93,910,673

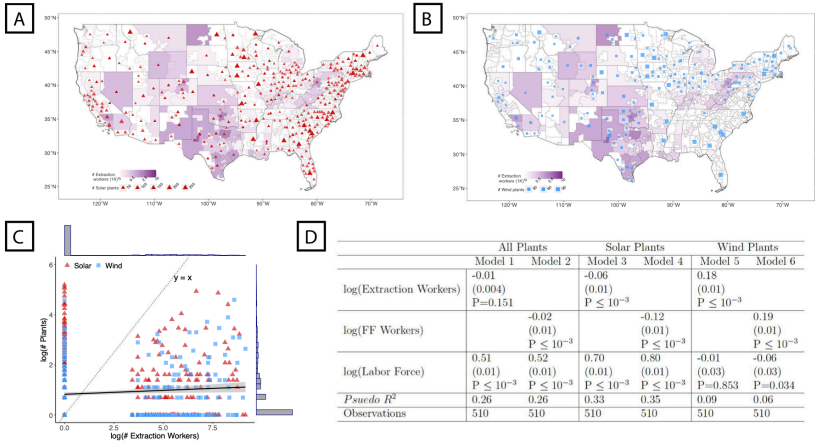
→ FF workers are sensitive to skills and esp geography

Skills

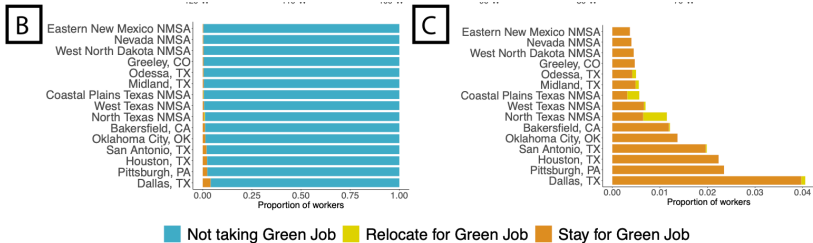


→ FF and green jobs: **similar skills** but some retraining needed

Geography

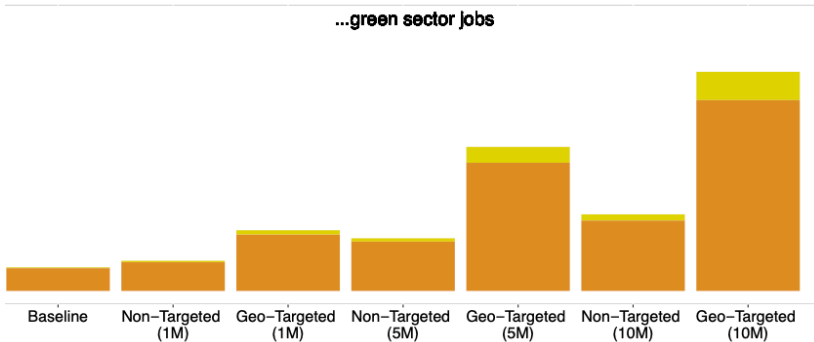


→ **Spatial mismatch** between FF workers and clean energy infrastructure. Too far?



Few FF workers will take green jobs, and even fewer will move

Impact of job creation programs:



If you want to help FF workers: **location** > **volume** of jobs

(But picking a more suited sector is even better.)

Summary

Core findings

1. **Ease** of labor exit: critical obstacle to FF phaseouts
2. **Labor market frictions**: geography, skills
3. Orderly reallocation of labor **unlikely** without **place-based policy**

Ongoing work

- Survey experiments to identify **wage sensitivity** to geographic distance, retraining, commuting (+heterogeneity) (US, Rewire America)
- **Measure individual and regional job vulnerability** to clean energy transition (EU)
- Measure **skills (mis)match** in informal sectors (India, CEEW)
- Labor market policies in climate plans (ILO)

(FYI: I'm hiring PhD students and postdocs for these projects...)

Taking a step back...

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- Lack of progress: believed to be caused by political failures
- Yet: what if the nail was (often?) inadapted?



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- Consistent with literature on **innovation economics** [Bergek et al. 2008, Gallagher et al. 2012, Acemoglu et al. 2012, Aghion et al. 2019, Markard et al. 2020]

A world of coordination failures and transaction costs: **multiple equilibria**, **costly transitions**, and **distributive conflicts**

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- Consistent with literature on **innovation economics** [Bergek et al. 2008, Gallagher et al. 2012, Acemoglu et al. 2012, Aghion et al. 2019, Markard et al. 2020]
- Consistent with observations from **industry** and **policy** that emphasize non-pricing obstacles both for production and for corrective policies.

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- That **Pigouvian solutions don't work** or **shouldn't be pursued** [Andersson 2019, Bayer and Aklin 2020, Sturm 2023]
- That there are no **political failures** and that **industrial policy** is unconditionally desirable or effective [Helm 2010, Finnegan 2022]

Instead...

- Think creatively about state intervention: when are they needed, and what should they achieve? **Market creation vs. market intervention**
- **Learn the lessons of the past** – especially failures. Is new industrial policy sufficiently different to work?
[Rosenstein-Rodan 1943, Murphy et al. 1989, Matsuyama 1995, Kraay and McKenzie 2014, Juhász et al. 2023]
- **Real policy impact**: Chuck Schumer and Joe Manchin and the importance of **political feasibility**

Thanks!

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